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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/720,216	11/25/2003	Toshiya Yuasa	03560.003402	4985

5514 7590 07/20/2006

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EXAMINER

CORDRAY, DENNIS R

ART UNIT PAPER NUMBER

1731

DATE MAILED: 07/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

✓

Office Action Summary	Application No. 10/720,216	Applicant(s) YUASA, TOSHIYA	
	Examiner Dennis Cordray	Art Unit 1731	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 22 May 2006.
- 2a) This action is **FINAL**.
- 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 3-7 is/are pending in the application.
 - 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 3-7 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 - 1. Certified copies of the priority documents have been received.
 - 2. Certified copies of the priority documents have been received in Application No. _____.
 - 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 5 and 6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims recite "...the content of the vinyl copolymer is in the ratio of 0.2 percent by mass to 20 percent by mass." It is not clear whether the vinyl copolymer is applied to the paper in an amount of 0.2 to 20 percent by mass of the fibers, in an amount of 0.2 to 20 percent by mass of the finished sheet, or applied as a solution having a concentration of 0.2 to 20 percent by mass of the sizing composition. The Specification recites on p 10, 1st par that the sizing agent preferably includes the vinyl copolymer in the ratio of 0.2 percent by mass to 20 percent by mass, thus the claim will be interpreted for the purpose of this examination as conforming to the recitation in the Specification.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

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A person shall be entitled to a patent unless –

Claims 3 and 4 are rejected under 35 U.S.C. 102(a or e) as being anticipated by Struck et al (US 2003/0212183).

Struck et al discloses a dispersion comprising a cationic copolymer dispersant that is added to the furnish as part of a retention aid in a papermaking process (Abstract; p 1, par 2). The cationic copolymer dispersant comprises a cationic vinyl monomer (m3) (p 1, par 11). Preferred monomers are (meth)acryloyl-oxyethyl-trimethylammonium chloride (p 2, par 27 to p 3, par 28), which is described by formula (1) of the instant invention. The copolymer also comprises a second monomer (m4), preferred examples of which are methoxypolyethylene glycol methacrylate, poly(ethylene glycol) methyl ether acrylate, di(ethylene glycol) ethyl ether (meth)acrylate, ethylene glycol methyl ether (meth)acrylate, which are described by formula (2) of the instant invention (p 1, par 11; p 3, par 29). The copolymer comprises 80 to 99.9 mole percent of monomer m3 and 0.1 to 20% of monomer m4 (p 3, pars 28-29). The weight average molecular weight of the copolymer is from 20,000 to 5,000,000 g/mole (p 3, par 30). The disclosed copolymer significantly overlaps and thus anticipates the claimed copolymer.

Polymeric additives to papermaking can simultaneously serve multiple purposes, thus the polymer of Struck et al is capable of serving as a dispersant as well as an engine sizing agent.

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Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawai et al (6465078) in view of Ali et al (5712027).

Kawai et al discloses a recording sheet having an ink absorbing layer that comprises a cationic polymer having a cationic monomer, a crosslinking monomer and a hydrophilic monomer (Abstract; col 4, lines 1-9). The cationic monomer can be dimethylaminoethyl (meth)acrylate or other di-C₁₋₄ alkylamino-C₁₋₃ alkyl (meth)acrylates quaternized with methyl chloride, which are described by formula (1) of the instant invention (col 4, lines 15-37). The hydrophilic monomers include, but are not limited to, hydroxyethyl (meth)acrylate, diethylene glycol mono(meth)acrylate and triethylene glycol mono(meth)acrylate (col 5, lines 20-45). The cationic monomer can be present in an amount of 0.1 to 50% of the monomers and the hydrophilic monomer can be present in an amount of 0 to 50% of the total monomers. (col 6, lines 16-30), thus the ratio of cationic to hydrophilic monomers [analogous to the claimed ratio (i):(ii)] can be 0.2:100 to 100:0. The molecular weight of the copolymer can be from 2,000 to 1,000,000 and preferably from 10,000 to 500,000 (col 7, lines 1-4). The ink absorbing layer can be formed by coating the substrate (base paper) with the coating composition comprising the above copolymer (sizing agent) in a suitable solvent, such as water (col 12, lines 48-

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52). An example is given of a coating solution containing 86.5 parts (30 parts nonvolatile acrylate copolymer) and 700 parts other aqueous solution, or 3.8% by weight (col 14, lines 31-37). Other examples of coating solutions are disclosed, which contain the acrylate copolymer in an amount from 3 to 7.7% by weight (col 14, line 45 to col 15, line 24).

Kawai et al does not disclose a hydrophilic monomer having an alkoxy polyethylene glycol group.

Ali et al discloses a substrate having an ink receptive coating comprising a copolymer having hydrophilic monomers and teaches that hydrophilic monomers include hydroxy alkyl(meth)acrylates and alkoxy alkyl(meth)acrylates (Abstract; col 11, lines 38-46; col 12, lines 21-22 and 65-67).

The art of Kawai et al, Ali et al and the instant invention are analogous as pertaining to coatings applied to printing or recording sheets. It would have been obvious to one of ordinary skill in the art to use an alkoxy alkyl(meth)acrylate (described by formula 2 of the instant invention) as the hydrophilic monomer in the copolymer of Kawai et al in view of Ali et al as a functionally equivalent option.

Response to Arguments

Applicant's arguments, filed 4/24/2006, with respect to the rejection(s) of claim(s) 3 and 4 have been fully considered and are persuasive in view of the current amendments to the claims. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made as detailed above.

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dennis Cordray whose telephone number is 571-272-8244. The examiner can normally be reached on M - F, 7:30 -4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


DRC


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